LISTING OF CLAIMS:

What is claimed is:

1. (Previously Presented) An optical security element having a substrate layer, wherein a relief structure defined by relief parameters is shaped in a surface region of the substrate layer, which region is defined by an X-axis and a Y-axis, for producing an optically perceptible effect,

wherein

one or more of the relief parameters defining the relief structure in the surface region are varied periodically in accordance with a periodic parameter variation function, wherein the surface region is divided into one or more pattern regions and a background region, and wherein one or more of the relief parameters defining the relief structure relief shape, relief depth, spatial frequency and azimuth angle in the background region and the one or more pattern regions are varied periodically in accordance with a periodic parameter variation function, wherein the relief structure is a diffraction grating and the period of the parameter variation function is between 20 μm and 300 μm, and the one or more of the relief parameters defining the relief structure, relief shape, relief depth, spatial frequency and azimuth angle in the one or more pattern regions are varied in accordance with a parameter variation function which is phase-displaced with respect to the parameter variation function of the background region.

2. (Previously Presented) An optical security element according to claim 1 , wherein the phase displacement of the parameter variation function between the pattern region and the background region is about 180 degrees.

3. (Previously Presented) An optical security element according to claim 1, wherein the phase displacement of the parameter variation function between the pattern region and the background region is selected in accordance with the contrast to be set.

4. (Previously Presented) An optical security element according to claim 1, wherein the relief structure is a diffraction grating whose azimuth angle is varied periodically in accordance with the parameter variation function.

5. (Previously Presented) An optical security element according to claim 4, wherein the mean azimuth angle in relation to the resolution capacity of the human eye is constant.

6. (Previously Presented) An optical security element according to claim 4, wherein the parameter variation varies the azimuth angle of the diffraction grating periodically in dependence on the value of the X-axis.

7. (Previously Presented) An optical security element according to claim 6, wherein the parameter variation function varies the azimuth angle of the diffraction grating in such a way that the diffraction grating is composed of a plurality of serpentine line-shaped lines.

8. (Previously Presented) An optical security element according to claim 7, wherein the parameter variation function is a sine function which varies the azimuth angle of the diffraction grating in dependence on the value of the X-axis.

9. (Previously Presented) An optical security element according to claim 4, wherein the parameter variation function varies the azimuth angle of the diffraction grating periodically in dependence on the value of the X-axis and the value of the Y-axis.

10. (Previously Presented) An optical security element according to claim 9, wherein the parameter variation function varies the azimuth angle of the diffraction grating in such a way that the diffraction grating is composed of a plurality of lines arranged in concentric circles.

11. (Previously Presented) An optical security element according to claim 4, wherein the diffraction grating has a spatial frequency of more than 300 lines per mm.

12. (Previously Presented) An optical security element according to claim 1, wherein the relief structure is a diffraction grating whose spatial frequency is varied periodically in accordance with the parameter variation function.

13. (Previously Presented) An optical security element according to claim 12, wherein the mean spatial frequency in relation to the resolution capacity of the human eye is constant.

14. (Previously Presented) An optical security element according to claim 12, wherein the parameter variation function varies the spatial frequency periodically between a maximum frequency, preferably 1200 lines per mm, and a minimum frequency, preferably 800 lines per mm, in dependence on the value of the X-axis.

15. (Previously Presented) An optical security element according to claim 14, wherein the parameter variation function is a sawtooth function, a triangular function or a sine function.

16. (Previously Presented) An optical security element according to claim 1, wherein the relief structure is a diffraction grating whose profile depth is varied periodically in accordance with the parameter variation function.

17. (Previously Presented) An optical security element according to claim 16, wherein the parameter variation function varies the profile depth of the diffraction grating periodically between a maximum depth and a minimum depth in dependence on the value of the X-axis.

18. (Previously Presented) An optical security element according to claim 16, wherein

the parameter variation function is a triangular, rectangular or sine function.

19. (Previously Presented) An optical security element according to claim 1, wherein the relief shape is varied periodically in accordance with the parameter variation function.

20. (Previously Presented) An optical security element according to claim 19, wherein the relief shape is varied periodically between two asymmetrical, mutually mirror-symmetrical relief shapes.

21. (Previously Presented) An optical security element according to claim 1, wherein the width of the troughs of the relief structure is varied periodically in accordance with the parameter variation function.

22. (Withdrawn) An optical security element according to claim 1, wherein the mean azimuth angle of the relief structure respectively corresponds to the azimuth angle of an associated verification grating.

23. (Previously Presented) An optical security element according to claim 1, wherein the phase displacement between the background region and the pattern region is accompanied by a further function change.

24. (Withdrawn) A system for visualising items of concealed information comprising a security element having a substrate layer in which a relief structure defined by relief parameters is shaped in a surface region of the substrate layer, which region is defined by an X-axis and a Y-axis, for producing an optically perceptible effect,

wherein

one or more of the relief parameters defining the relief structure in the surface region are varied periodically in accordance with a periodic parameter variation function, wherein the surface region is divided into one or more pattern regions and a background region, wherein one or more of the relief parameters defining the relief structure relief shape, relief depth, spatial

frequency and azimuth angle in the background region and the one or more pattern regions are varied periodically in accordance with a periodic parameter variation function, wherein the relief structure is a diffraction grating and the period of the parameter variation function is between 20 μm and 300 μm, wherein the one or more of the relief parameters defining the relief structure relief shape, relief depth, spatial frequency and azimuth angle in the one or more pattern regions are varied in accordance with a parameter variation function which is phase-displaced with respect to the parameter variation function of the background region, and wherein the system further has a verification element which has a verification grating which is defined by a periodic transmission function and whose period corresponds to the period of the parameter variation function.

25. (Withdrawn) A system according to claim 24, wherein the transmission function is a non-binary transmission function, in particular a sine function.

26. (Withdrawn) A system according to claim 24, wherein the mean azimuth angle of the relief structure respectively corresponds to the azimuth angle of the associated verification grating.